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A Summary of Current Research Program 7/1/67

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and Preliminary Report of Progress for
10/1/66 to 6/30/67

FARMER COOPERATIVE SERVICE
of the
UNITED STATES DEPARTMENT OF AGRICULTURE
and related work of the
STATE AGRICULTURAL EXPERIMENT STATIONS

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CURRENT SERIAL RECORDS

This progress report is primarily a tool for use of scientists and administrators in program coordination, development, and evaluation; and for use of advisory committees in program review and development of recommendations for future research programs.

The summaries of progress of USDA and cooperative research include some tentative results that have not been tested sufficiently to justify general release. Such findings, when adequately confirmed, will be released promptly through established channels. Because of this, the report is not intended for publication and should not be referred to in literature citations. Copies are distributed only to members of Department staff, advisory committee members, and others having a special interest in the development of public agricultural research programs.

This report also includes a list of publications reporting results of USDA and cooperative research issued between October 1, 1966 and June 30, 1967. Current agricultural research findings are also published in the monthly USDA publication, News for Farmer Cooperatives. This progress report was compiled in the Farmer Cooperative Service, U.S. Department of Agriculture, Washington, D.C.

UNITED STATES DEPARTMENT OF AGRICULTURE
Washington, D. C. 20250
July 1, 1967

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INTRODUCTION

Farmer Cooperative Service helps farmers and other rural Americans live better by using cooperatives and by using them more effectively. The Service conducts research, provides advisory service, and performs educational work to help farmers and rural residents improve the organization, operation, and management of their cooperatives.

On June 30, 1967, the Service had a total staff of 94, including 49 professional economists and 5 cooperative and marketing specialists. All research personnel are located in Washington, D.C. This report describes the research program of the Service but does not cover advisory assistance that is not of a research character or any educational activity. Further, the manpower reported excludes personnel working in Washington, D.C., Brazil, and Paraguay under authorizations of the Agency for International Development, U.S. Department of State.

The three program Divisions -- Marketing, Purchasing, and Management Services -- correspond to the three work areas in this report. The Service cooperates with other agencies of the Department, other Federal and State organizations, and land-grant universities in conducting research on problems of mutual interest. Other public and private organizations conduct some research under contract or cooperative agreement with the Service. Also, Service personnel participates in planning, reviewing, and at times, executing research conducted by regional research groups of land-grant university personnel.

Some recent examples of research with cooperatives follow:

Dairy.--A study of cooperative marketing activities shows that during the 1957-64 period the number of cooperatives decreased by one-fifth, yet their total volume of milk marketed increased by one-third. The average cooperative increased its volume by three-fifths.

The study also shows more than two-thirds of all dairy cooperatives located in the North Central Region. Many of these organizations operate small creameries and cheese plants and do not have adequate volume to justify installing modern, automated equipment required for low unit cost operations.

Livestock Slaughtering.--A recently completed study indicates that Vermont farmers need a new meat plant to provide a dependable market for their cull dairy cows and veal calves.

Available livestock supplies, market outlets for meat products, and sources of financing make a meat plant feasible if producers will support it with both their livestock and their capital. A plant killing 500 cattle and

1,000 calves a week could add \$280,000 a year to producers' incomes. The Vermont Agri-Business Council is now working to implement the study's recommendations.

Citrus.--A study of the possibilities of a group of Florida processing cooperatives coordinating their marketing effort indicates that a central sales organization would materially improve their marketing ability.

Motortruck Operations of Farmer Cooperatives.--A nationwide study of number, type, and location of motortrucks operated by cooperatives indicates:

- . Fifty-five percent of the cooperatives operated motortrucks.
- . This percentage had remained essentially unchanged since 1960.
- . The number of trucks operated increased from 33,000 in 1960 to 40,000 in 1966.
- . Dairy cooperatives accounted for about a third of all trucks operated.
- . Cooperative truck mileage in 1966 was estimated at 830 million miles, with 80 percent of this mileage being intrastate.
- . The increase in mileage by co-op trucks in the past 6 years was about 26 percent compared to 44 percent for all trucks in the United States.
- . Those cooperatives reporting number of interstate trips and backhauls indicated they backhauled on only 21 percent of their trips and 89 percent of these backhauls consisted of their own or members' goods.

Soybeans.--A recent study shows that Louisiana soybean producers can increase their net income by \$1 million in 1967 and by as much as \$4 million in 1970 by adopting improved methods of cooperative storage, handling, and transportation.

Examples of research by State agricultural experiment stations and cooperative programs follow:

Iowa.--Factors affecting the bargaining power of some dairy bargaining cooperatives.--Several factors influence the bargaining power of dairy cooperatives. These include governmental regulations on cooperatives and milk distribution, characteristics of local markets, volume of milk marketed, bargaining activities of nearby cooperatives in dealing with milk distributors, alternative sources of milk for grade A milk handlers, alternative outlets for members' milk, growth in size of milk bottlers and mergers

among bottlers, size of processing facilities owned by the cooperative, and extent to which cooperatives work together in adopting mutually beneficial policies.

Producers supplying milk to the Chicago and Detroit markets receive large premiums over Federal Order prices -- much larger premiums than producers in other markets studied receive. Project findings help to explain the existence of these premiums. Chicago and Detroit bottlers need their local cooperatives' milk. Bottlers in other markets studied do not. For the other markets, surplus grade A milk is available from alternative sources to replace the milk that might be withheld by the local cooperative. But Chicago and Detroit are such big markets that bottlers there would find it virtually impossible to satisfy their needs from alternative sources.

Kansas.--Economic aspects of firm management of farmer cooperatives.--An analysis was made of tire and battery merchandising activities of farm supply cooperatives. The purpose was to determine the profitability of the TBA department and to determine how such variables as sales volume, inventory level and turnover, and gross margins affected profitability.

Size was an important factor affecting net savings. Small associations experienced an average loss of 4.6 percent of sales. Large ones had average net margins of 4.0 percent of sales. The analysis showed labor expense had the greatest effect upon net margin. The analysis revealed that many associations had difficulty in managing inventories. Too often inventories were too large for the volume of sales being made.

New Mexico.--Equity among members of cotton gin cooperatives.--A study of New Mexico cotton gin cooperatives pinpointed possible inequitable treatment of members in calculating depreciation, charging for repairs, retiring members' capital, and paying interest on members' capital.

The straight-line method of depreciation, used by all of the associations, creates an inequity between patrons in different years. To correct this, cooperative gin boards of directors could use the units-of-production method of depreciation and a fixed charge for obsolescence, so the largest charge for depreciation would be made in the years of high volume.

Repairs were charged in the year they were made instead of the year they accrued, creating an inequity. This could be overcome with a repairs-and-maintenance reserve fund.

The cooperatives made few provisions to return members' equity capital upon death or retirement from membership. Associations that do not redeem members' certificates upon withdrawal might consider adopting a consistent time period for revolving certificates. The research also revealed that gross inequities exist when interest is not paid on member equity capital.

AREA NO. 1: COOPERATIVE MARKETING

Problem: Farmers continue to increase their use of marketing cooperatives.

Marketing cooperatives face major changes in handling, processing, transportation, and distribution technology as well as in market organization and practices. Farmers also have changed and cooperatives need research findings to help members strengthen their bargaining power, increase marketing efficiency, and effectively meet the quality, quantity, and service needs of today's markets.

Farmers own and operate marketing cooperatives specifically to increase their income from the sale of crops and livestock. Gains are not automatic, however.

Cooperatives must plan and actually conduct the specific marketing programs and services that will yield best returns to their members. Marketing cooperatives must know what the consumer wants. They must be able to estimate the cost of serving the market in different ways. They must understand the possibility of major economies in a well-managed joint sales program, methods and potentials of bargaining, and impact of a changing market structure on operations.

Management must achieve minimum costs through appropriate organization, good use of existing plant and personnel, and correct selection and use of new equipment and methods.

USDA and Cooperative Program

The Department conducts a continuing long-range program of basic and applied research and technical assistance on problems of marketing farm products cooperatively. Studies cover organization, operation, and role of cooperatives in marketing. While the research helps improve cooperatives operations, the results often benefit other marketing firms.

The work is centered in Washington, D.C. The Service, however, has many studies done under contract or in cooperation with various State experiment stations, extension services, land-grant colleges, universities, cooperatives and private research organizations.

Federal scientific man-years devoted to research in this area totaled 11.6. Of this number, 1.7 was devoted to improving sales, distribution, and pricing practices; 3.5 to potentials in cooperative marketing; 2.6 to improving operating and handling methods; and 3.8 to improving the organizations, financing, and management of marketing cooperatives. All research was in the field of economics.

Program of State Experiment Stations

The research effort of the State experiment stations in this area totaled 2.8 scientist man-years.

Progress -- USDA and Cooperative Programs

A. Improving cooperative sales, distribution, and pricing practices

Bargaining.--Research continues on bargaining methods in fruits and vegetables. This research appraises the status, role, and potentials of cooperative bargaining as a means of stabilizing and enhancing incomes of producers.

Dairy.--Analysis of the operations of dairy cooperatives shows that about 75 percent of their milk is of Grade A quality -- well above the national average. Producers of Grade A milk are assigning greater marketing responsibilities to their cooperatives. In disposing of surplus Grade A milk (that not needed for fluid use), producers face the same marketing problems as producers of manufacturing grade milk.

In many large fluid milk markets, farmers have strengthened their marketing position by consolidating their cooperative marketing operations. Also, they have strengthened their bargaining position through federated marketing programs, some of them regional in scope.

Need continues for pooling systems to increase the efficiency of cooperative marketing operations and to increase their market power.

Sugar.--Work continued on a study of the status, organizational characteristics, operating experience, and potentials of sugarcane cooperatives.

B. Potentials in cooperative marketing

Cotton.--A study of central ginning indicates cooperatives could reduce ginning costs by \$3 to \$7 a bale and improve the quality of ginning by using central gins. Central ginning is widely used in foreign cotton producing countries and it can be adapted to general use in the country.

Dairy.--During the 1957-64 period, the number of dairy marketing cooperatives decreased by one-fifth, yet their total volume of milk marketed increased by one-third, a recent study showed. Volume of the average cooperative increased by three-fifths.

Over two-thirds of all dairy cooperatives are located in the North Central region. Many operate small creameries and cheese plants and do not have adequate volume to justify the installation of modern, automated equipment required for low unit cost operations.

Further analysis is being made of potential benefits to dairy farmers from increased coordination in their marketing activities.

Forestry.--A report on alternative ways of organizing the Beckley, W. Va., timber concentration yard and wood processing facility was published. It was prepared for timberland owners and community leaders.. They are seeking

better ways to utilize and develop the timber resources of six southern West Virginia counties. The report describes some advantages and disadvantages of each kind of business organization, suggests steps to be taken after making a decision to organize, and discusses the key roles of management and financing.

West Virginia University, the contractor, continues work on a study to determine alternative forest-based activities and enterprises in West Virginia.

Fruits and Vegetables.--Work continues on a study of the status and trends in the cooperative marketing of fruits and vegetables. Ways these cooperatives might increase their operating efficiency and marketing effectiveness through integration, coordination, consolidation, expansion, and other means are also being evaluated.

A study to determine the potential of small fruit and vegetable cooperatives on the Coastal Plains of North Carolina continues. This work is being done under a cooperative agreement by the Agricultural and Technical College of North Carolina.

Livestock.--The agency completed a study of the feasibility of establishing livestock slaughtering-meat processing and marketing cooperatives in Vermont. Findings indicate that Vermont farmers need a new meat plant to provide a dependable market for their cull dairy cows and veal calves. Available livestock supplies, market outlets for meat products, and sources of financing make a meat plant feasible if producers will support it with both their livestock and their capital. A plant killing 500 cattle and 1,000 calves a week could add \$280,000 a year to producers' incomes. The Vermont Agri-Business Council is now working to implement the study's recommendations.

Another study was appraising the potential for cooperative cattle feedlots in the Southeastern States. Preliminary investigation indicates a need to feed 2 million more cattle in the area to meet rising consumer demand for fed beef. Cattle feeding is growing in the Southeast and there is a need for cooperative feedlots to help farmers share in this expanding industry.

Potatoes.--A study of the role of cooperatives in the market structure of the major potato producing areas of the United States continues.

Poultry.--The Service started an appraisal of the status, role, capabilities, and future of farmers' turkey marketing cooperatives.

Work continues to determine whether it would be feasible to establish cooperative marketing facilities in the Northeast to market fowl.

Vegetables.--Work was initiated on a study to determine the potential of marketing vegetables cooperatively in Tennessee. This work is being conducted in cooperation with the University of Tennessee.

C. Improving operating and handling methods

Cotton.--A large portion of the cost reductions from central ginning would result from improved use of labor a study showed. Larger volumes per gin also would bring reduced depreciation per bale. Smaller reductions would occur in several other expenses but part of receiving station costs would be added to the total cost. An estimated \$3 to \$7 per bale reduction in costs included both reductions and additions.

Comparisons of costs and margins for cooperative oil mills provide more current guides for cooperative oil mill managers. This work shows need for improving sampling and analysis of seed and products to evaluate milling efficiency.

Research is underway to show accomplishments, operating practices, problems, and outlook of marketing cottonseed cooperatively.

Dairy.--Studies on combining operations of dairy cooperatives show that greatest benefits exist where cooperatives have unused plant capacity. Where this capacity is scattered over a wide geographic area, selection of the best alternative becomes more difficult.

The Service has a study underway to develop a standard departmentalized cost accounting system to provide information needed to control cost and help select the best operating alternatives.

Livestock.--The Service completed a study of the feasibility of pooling veal calves at a group of eight cooperative auctions. The study found that pooling would be feasible at six of the eight auctions and would increase producers' net returns from calves by \$150,000 to \$200,000 a year. The study also outlined procedures for organizing and operating an efficient and successful pool.

Guidelines were developed for organizing and operating wool marketing pools.

Work continued on a study to improve operations and services of two large livestock cooperatives in the Midwest. These cooperatives have expanded their off-the-terminal market operations and increased the volume of livestock handled and services rendered to members. Ways to integrate and coordinate services of the two organizations are being evaluated.

D. Improving the organization, financing, and management of marketing cooperatives

Citrus.--A study to appraise the possibilities of a group of Florida processing cooperatives coordinating their marketing efforts was completed. Findings indicate that a central sales organization would materially improve the marketing ability of these cooperatives.

Cotton.--A study was initiated to develop a more efficient cotton ginning system in the major cotton producing areas of the Southwest.

Dairy.--Three studies on the feasibility of unifying operations of cooperatives show that changes in milk supplies have left many dairy cooperatives with unneeded plant capacity, and facilities both mislocated and antiquated.

These studies further indicated a major problem in unifying cooperative operations is the lack of farmer understanding of the alternative legal steps and their implications.

Fruits and Vegetables.--A study is continuing on organizational characteristics and operating methods of selected marketing agencies that have successfully marketed fruits and vegetables for member associations on a joint basis.

Grain.--Work is continuing with eight regional grain cooperatives building a large export elevator in the New Orleans area. The Service completed another study on the economic feasibility of constructing and operating a cooperative on the Mississippi River.

The annual analysis of the operations and financial status of regional grain cooperatives showed they were handling more grain with greater emphasis on exports, merchandising, and processing. A study of inventory controls, practices, and responsibilities at local cooperative elevators was completed.

Work is being carried on with Agricultural Experiment Stations in the South and with the Tennessee Valley Authority on grain marketing, processing, utilization, and transportation problems peculiar to that area.

Publications -- USDA and Cooperative Programs

Improving Cooperative Sales, Distribution, and Pricing Practices

1967. Proceedings of the 11th National Bargaining Conference. FCS Unnumbered Report.

Potentials in Cooperative Marketing

Campbell, J. D. 1967. Forty Years - and More - of Cotton Cooperation. News for Farmer Cooperatives (Jan.).

Fox, R. L. 1967. Livestock and Wool Co-ops -- 40 Plus and Still Going Forward. News for Farmer Cooperatives (Jan.).

Fox, R. L. and Randell, C. G. 1967. Feasibility of Livestock Meat Processing and Marketing Cooperatives in Vermont. FCS Unnumbered Report.

Furbay, W. M. 1967. Cooperatives Help Malagasy Republic Develop. News for Farmer Cooperatives (Apr.).

Hulse, F. E. 1966. Alternative Ways of Organizing the Beckley, W. Va., Timber Concentration Yard and Wood Processing Facility. FCS Service Report 85.

Libeau, C. 1967. FCS Adopts to Changing Poultry and Egg Industry. News for Farmer Cooperatives (Jan.).

Markeson, C. B. 1967. Marketing Special Crops - Then and Now. News for Farmer Cooperatives (Jan.).

Markeson, C. B. and Savage, J. K. 1966. Outdoor Recreation -- a New Potential for Cooperation. FCS Educational Circular 28.

Markeson, C. B. 1967. Focusing on Market Needs for Fruits and Vegetables. News for Farmer Cooperatives (Jan.).

McVey, D. H. 1967. Grain Co-ops for 100 + 10 Years. News for Farmer Cooperatives (Jan.).

Tucker, G. C. 1967. Dairy Cooperatives - Four Decades of Change. News for Farmer Cooperatives (Jan.).

1967. Cooperative Feedlots for Cattle in the Southeast. FCS Information 56.

Improving Operating and Handling Methods

Price, C., Traylor, H. D., and Markeson, C. B. 1967. Cost of Drying and Storing Rough Rice in Louisiana and Texas. Marketing Research Report 799.

Improving Organization, Financing, and Management

Ackley, R. M. 1967. Inventory Control and Valuation Practices of Local Cooperative Grain Elevators. FCS General Report 142.

Ackley, R. M. 1967. Grain Inventory Brings Problems. News for Farmer Cooperatives (Feb.).

McVey, D. H. 1967. 28th Annual Report of the Regional Grain Cooperatives, 1965-66. FCS Service Report 88.

McVey, D. H. 1966. Grain Co-ops Show Their Muscle. Co-op Grain Quarterly (Summer).

Wilson, D. W. 1967. Guidelines for Organizing and Operating Wool Marketing Pools. FCS Educational Circular 31.

AREA NO. 2: COOPERATIVE PURCHASING

Problem: Simple cooperative systems can no longer meet the needs of modern agriculture. Farms are larger. Farmers depend upon many types of off-farm supplies to meet their farm production needs. The increased use of such supplies is the farmers' way of substituting capital for labor.

Cooperatives form a vital link in the total interdependent economic system. Reducing costs of production supplies becomes increasingly important since such purchases constitute a major production expense. Cooperatives must seek methods to streamline their operations and at the same time insure that they meet the service needs of farmers. It is important to determine effective scale of operation and number of cooperatives needed to effectively serve members.

The complex nature of agriculture and the scale of production for efficient operation require cooperatives to both diversify and become more basic in their procurement system.

The scale of operation may differ by commodity. It may also differ at various levels in the economic system. The local distribution function may be performed efficiently by relatively small organizations. But basic manufacturing may require large scale operations.

The degree of specialization also may vary from relatively complete specialized organization at the basic manufacturing level to diversified operations at local distribution points.

There is a need to determine effective size and degree of diversification for various types of cooperative operations. And there is need to determine the degree and type of affiliation among cooperatives that will result in greater efficiency.

Farmers may be able to obtain additional services from their cooperatives. Some of these services may contribute to the decision making process by providing the farm operator more complete production and marketing information through a data computer service. In other instances cooperatives may be able to provide services that will reduce the individual farmer's costs or investment level. High cost of equipment, particularly where the period of use is limited, offers opportunities for cooperatives to help farmers reduce costs.

The interdependent nature of modern agriculture means that farms are a part of the total rural community. Cooperatives originally designed to serve agriculture can also serve some of the needs of the total community. In some instances no adaptations in cooperative operations are needed. In others some modification is required. There is need to determine the economic and social impact of making such changes in cooperative operations, and how they can best meet broad community needs.

USDA and Cooperative Program

The Department has a continuing program in basic and applied research. This research effort is further implemented by technical assistance and by an educational program designed to aid farmers in improving cooperative purchasing of production supplies and related farm services.

Research efforts are directed to improving organizational structures and pricing practices; improving procurement and distribution systems; changing character and operations of local processing organizations; evaluating the role of rural credit unions and farm supply cooperatives in low-income areas; solving problems of unification and coordination of the operations of two or more cooperatives; and developing efficient operational methods to serve modern agriculture. While most of the work is done with cooperatives, the results are useful to other firms.

The program is centered in Washington, D.C. Some studies, however, are conducted under contract or in cooperation with land-grant colleges, universities, cooperatives, State experiment stations, and private research organizations.

Federal scientific man-years devoted to research in this area totaled 5.2. Of this, 1.0 was devoted to improving sales and distribution methods; 2.8 to potentials of cooperatives; 0.2 to improving operating and handling methods; and 1.2 to improving organization, financing, and management of farm supply and service cooperatives. All research was in the field of economics.

Program of State Experiment Stations

The research effort of the State experiment stations in this area totaled 3.8 scientists man-years.

Progress -- USDA and Cooperative Programs

A. Improving sales and distribution methods

Purchasing cooperatives are interested in increasing volume to improve buying power and keep per-unit handling costs low. Most are faced with the problem of improving efficiency in distributing supplies and providing services to meet the needs of farmers with different size operations. And many are interested in serving other rural residents in order to help build stronger rural communities.

Feed.--A report on a study of 16 poultry feed bargaining groups in California was issued. Principal findings were reported last year.

A study is underway on practices of cooperatives in the East and Midwest in pricing feed at wholesale and retail levels. Special attention is

being given to various types of discounts, price adjustments, and other forms of differential pricing.

Findings thus far indicate a wide variation among 16 regional associations in the types and amounts of wholesale discounts granted. Seven grant quantity discounts on large individual feed transactions, and four grant their retail outlets a volume discount on annual feed purchases above a specified minimum. Eight provide price adjustments upon proof that a price adjustment is necessary to meet competition. Nine regionals deliver feed direct from the regional's mill to large volume feed patrons at the wholesale price.

The 79 retail cooperatives or branches studied also show wide variations in types and amounts of discounts granted. Variations in discount rates and quantity purchases to obtain the discount for different kinds of feed appear to be dictated in large measure by what is necessary to meet competition.

Of the 79 local outlets, 67 allow a quantity discount on large individual feed transactions, 2 have no definite policy, and 9 do not grant quantity discounts of any type. Twenty nine locals grant volume discounts on large annual feed purchases. Thirty-five locals receive a discount for cash or payment within a specified number of days.

Fertilizer.--Information was obtained on the pricing practices of cooperatives in the East and Midwest. Special attention was given to discounts, price adjustments, and other forms of differential pricing.

The 16 regional associations show a wide variation in the types and amounts of discounts granted. Only one allows its retail outlets a quantity discount on large individual fertilizer transactions, but five give a volume discount on annual fertilizer purchases above a certain minimum. Thirteen of the regionals allow their retail outlets price adjustments on proof that a price adjustment is necessary to meet competitors' prices. Five regionals also deliver fertilizer direct from plants to large volume patrons at the wholesale price.

Information on the fertilizer pricing policies of 74 retail cooperatives or branches also shows wide variations in discount rates and quantity purchases to obtain the discount for various types of fertilizer. The types and amounts of discounts granted seems to be dictated primarily by what is necessary to meet competition.

Of the 74 retail outlets, 32 grant patrons a quantity discount on large individual fertilizer transactions and 38 grant them a volume discount on annual purchases above specified minimums. More than one-half of the locals grant a discount for cash or payment within a certain number of days. All grant preseason discounts to farmers. In some cases the discount is for early orders.

B. Potentials of cooperatives in farm production supplies and farm services

Cooperatives are interested in diversifying services, integrating operations, and expanding both in areas now served and in new areas. Research will help directors and managers plan and implement programs and services for farmers and other rural residents.

Feed (dehydrated alfalfa).--Work in this area was initiated to: Determine conditions necessary for establishing successful alfalfa dehydrating plants; evaluate the experience of cooperatives and non-cooperative alfalfa dehydrating operations; and develop guidelines for successful dehydrating operations by cooperatives.

A study is underway of 35 alfalfa dehydrating plants (including both cooperative and proprietary) operating in Nebraska, Kansas, Colorado, California, Texas, Arkansas, Ohio, and Minnesota. In addition, records of a number of out-of-business cooperative dehydrating plants are being studied to determine causes of failure.

Preliminary findings indicate: Dehydrating operations can be successful if located well and prudently managed; cooperative dehydrating experience has been neither worse nor better than that of proprietary operations; and cooperative success in alfalfa dehydrating depends largely on ability and willingness of cooperative members to supply an adequate volume of alfalfa or on how well dehydrating fits in with other activities of the cooperative, or on both.

Montana State University is performing this work under contract.

Fertilizer.--Work on a study of the present status and potential role of cooperatives in the fertilizer industry is underway. Preliminary findings on trends in the nitrogen fertilizer industry and their implications to farmer cooperatives indicate:

- . U.S. consumption of all nitrogen fertilizers will increase about 18 percent a year from 1965 to 1970 and reach a total of 8.3 million tons in 1970. Almost half this total will be used in the North Central States and one-fourth in the South Central area.
- . Total U.S. anhydrous ammonia capacity is expected to increase from about 7.5 million tons in 1964 to over 20 million tons by 1970, with cooperative ownership increasing from 12 percent to 16 percent of the total during this period.
- . With the rapid increase in number and size of nitrogen plants, output as a percentage of capacity is expected to decline from nearly 100 percent in 1961 to about 60 percent in 1970.

- . The greater efficiency of larger ammonia plants is expected to more than offset increased per unit costs resulting from under-utilization of plants.
- . Manufacturers are expected to continue limiting output rather than cut prices, but their realized prices to wholesalers are likely to decline from an average of about \$75 a ton in 1965 to about \$66 a ton in 1970. Manufacturers' margins thus may decline from about \$43 a ton in 1963 to \$36 in 1970. If these predictions hold true, then cooperative plants should continue to pay out in 1½ to 3 years, depending on the size and output of the plant.
- . Retail margins on anhydrous ammonia are expected to decline sharply from 1965 to 1970 and prices of ammonium nitrate may decline from \$79 a ton in 1965 to about \$70 a ton in 1970.

The University of Nebraska is doing this work under a cooperative agreement.

Containers.--A study to determine the possibilities for cooperative purchase or manufacture of containers for processed fruits and vegetables was completed. It covered 76 cooperative packers -- about three-fourths of all such organizations -- throughout the United States.

Some principal findings are:

- . Container costs are about 36 percent of total processing costs and 22 percent of the sales value of processed products.
- . Cooperatives buy about \$160 million worth of containers a year for processing fruits and vegetables, or about \$1.9 million per association.
- . Metal cans account for 68 percent of total container expenditures; corrugated cardboard cases (including cannery cases) 19 percent, glass containers 7 percent, and other types 6 percent.
- . Cooperatives buy 92 percent of their containers directly from manufacturers.
- . About 80 percent of the containers are transported directly from suppliers' plants by truck and 16 percent by rail.
- . Cooperatives pay a relatively wide range of prices for containers of similar material and size. Various forms of quantity and cash discounts, brokerage allowances, and warehouse allowances are available to half the cooperatives reporting. Most common rate of quantity discount is 5 percent.

- . Savings of 10 to 15 percent appear possible from manufacturing metal cans if a substantial volume (30 million or more) of the commonly-used cans could be produced annually. Perhaps 5 percent or more might be saved by fabricating and printing paperboard shipping containers.
- . Processors with container purchases under \$1 million a year might realize worthwhile savings -- 5 percent or more -- by pooling their purchases on a cooperative basis. Suggestions were developed for cooperatives interested in manufacturing or purchasing containers on a joint or cooperative basis.

Frozen food provisioning.--A study of the locker and freezer provisioning industry indicates that the number of cooperatives declined between 1959 and 1964. The average locker cooperative served fewer patrons, had a larger total volume of business, slaughtered more livestock, cured less pork, and offered a wider variety of services in 1965 than in 1960. The average cooperative had smaller total sales than the average of all firms in the industry.

Recreation.--An inventory of all existing recreation cooperatives was started.

Rural Credit Unions.--A study is underway of credit unions operating in low income areas. Preliminary findings indicate that credit unions, when properly managed, can be effective in promoting thrift and savings among low income people and can provide a loan service for these people.

Share savings of members in the seven credit unions studied ranged from \$20,000 to more than \$150,000. For many members this is the only savings account they have. For some it is the only savings account they have ever had.

These credit unions include among their membership many who cannot qualify for a loan at the local bank or other financial institutions. Yet the credit unions have not experienced any serious difficulty in loan collections. In fact losses due to repayment default have been surprisingly light.

These credit unions make loans to help finance the purchase of farm supplies; consumer goods; and pay such living expenses such as doctors' bills, insurance premiums, taxes, and school expenses. A large proportion of the loans of one credit union were made to pay overdue store accounts. This indicates a need for more education, training, and advice in family money management -- a need credit unions operating in low income areas could fill.

C. Improving operating and handling methods

A study was made of two groups of frozen food locker cooperatives. Cooperatives in one group operated throughout the 1959-1966 period while cooperatives in the other group discontinued operations during the period.

Findings indicated that the continuing group had larger slaughtering, processing, and curing volume as well as higher levels of labor productivity. They also placed more emphasis on locker rentals and custom services than the group of discontinued cooperatives.

Work is underway to determine the differences in operations, performance, and growth between frozen food locker cooperatives with, and those without, slaughter facilities and to determine the effect a slaughter service has on total volume of production, sales, costs, and labor productivity.

D. Improving the organization, financing, and management of farm supply and service cooperatives

Studies were conducted to determine ways to strengthen the organizational structure, finances, management, and coordination of various purchasing and service cooperatives so they might improve their effectiveness in serving farmers and other rural residents.

Farm Supplies.--A biannual handbook was issued covering highlights of the organization, operations, facilities, and financial position of 19 major regional cooperatives handling supplies in 1964 and 1965.

Principal findings were:

- . Net savings of \$67 million were realized in 1965 on \$1.4 billion of farm and home supplies sold and \$324 million of farm products. These savings were 3.9 percent of sales and equal to 13 percent of members' equities.
- . Patrons of the cooperatives received \$34 million of these savings in cash dividends, capital stock, and cash patronage refunds. The remainder was placed in capital reserves and revolving capital equities. In addition, patrons received another \$11 million in cash which represented retirements of revolving capital.
- . Feed accounted for 32 percent of supply sales in 1965, petroleum 26 percent, fertilizer 20 percent, seed 3 percent, and general supplies and equipment 19 percent. Grain was the main product marketed, eggs and poultry next in importance.
- . These cooperatives had \$927 million of assets at the end of their 1965 business year, and members owned equities of \$517 million.
- . Supply sales in 1965 were up 4.6 percent over 1964, net savings up 22 percent, and member equities up 5.5 percent.
- . The 19 regional co-ops employed over 21,000 people and served 7,727 retail outlets in 1965. The latter consisted of 5,920 local cooperatives, 809 branch stores, and 998 private dealers or service agencies.

Retail supply cooperatives.--A study in a Midwest State is underway to find factors responsible for strong and weak retail supply cooperatives. Internal and external factors are being probed in depth in contrasting associations. Findings show that internal factors are of much greater importance in determining the success of a supply association than are external factors. Following are some of the distinguishing internal characteristics of the successful associations --

1. Members of the board of directors: Had high attendance at board meetings, received reports direct from department heads on specific matters, made decisions promptly, cooperated with management in financial and membership campaigns, selected director nominating committees, and rated either good or excellent in setting policies.
2. Managers: Were employed, on the average, more than 12 years in their positions and attained that position by coming up through the ranks, received higher income than managers of less successful associations, possessed a strong desire to receive additional training in areas of management and commodity knowledge and attended meetings for that purpose, established a clearly defined organizational structure -- complete with job descriptions, spent more time than managers of less successful associations in recruiting and training new employees, worked closely with directors -- especially new directors, gained confidence of patrons and employees, made decisions with precision and alacrity, and planned ahead.
3. Important external factors affecting the successful group are: Strong organizational and membership program resulted in early and continued success, full use was made of facilities and services of the affiliated regional cooperative, trade area was based more on economic considerations rather than on county lines, and the trade area had a large volume of agricultural production.

Farmers Mutual Insurance.--A study was initiated to develop information and guidelines needed by farmers' mutual fire insurance companies considering merging or consolidating into larger operating units to meet growing insurance needs of their members.

During the past decade more than 200 farmers' mutual fire insurance companies have been involved in some form of unification. About 50 larger, more effective, and better managed companies have evolved. These provide a ready source of information on: Factors leading up to unification, methods and procedures used in bringing about unification, and benefits to members resulting from unification.

Buying decisions of low income residents.--Work was initiated to determine factors affecting buying decisions and behavior of low income rural residents toward local cooperatives.

Publications -- USDA and Cooperative Programs

Improving Sales and Distribution Methods

DeLoach, D. B., and Maetzold, J. A. 1967. Collective Bargaining for Poultry Feed Prices--California. FCS General Report 141.

Potentials for Cooperatives

Bailey, J. M. 1966. Two Supply Cooperatives Serving Low-Income Farmers - A Preliminary Analysis in Appalachia. FCS General Report 138.

Hyre, F. M. 1967. Rural Service Cooperatives Help Members Live Better. News for Farmer Cooperatives (Jan.).

Miner, B. D., and Parsons, R. P. 1967. What's Ahead for Frozen Food Locker Co-ops? News for Farmer Cooperatives (Mar.).

Seymour, W. R. 1967. Frozen Food Locker Co-ops Follow Fewer-But-Larger Trend. News for Farmer Cooperatives (May).

Seymour, W. R. 1967. Outdoor Recreation - Why the Cooperative Approach? News for Farmer Cooperatives (June).

Improving Operating and Handling Methods

Miner, B. D. , Seymour, W. R., and Parsons, R. P. 1967. Frozen Food Locker and Freezer Provisioning Industry, 1965. Marketing Research Report 779.

Seymour, W. R. and Miner, B. D. 1967. An Appraisal of Frozen Food Locker and Freezer Provisioning Cooperatives, 1965. General Report 139.

Miner, B. D. 1967. Cooperatives and Frozen Food Locker Branch Make History. News for Farmer Cooperatives (Jan.).

Improving Organization, Financing, and Management Practices

Hyre, F. M. 1966. PCA-Co-op Credit Program Helps Meet Needs. News for Farmer Cooperatives (Dec.).

Hyre, F. M. and Rust, I. W. 1967. Organizing and Conducting Cooperatives' Annual Meetings. FCS Educational Circular 32.

Mather, J. W. 1967. Handbook on Major Regional Cooperatives Handling Supplies, 1964 & 1965. FCS General Report 140.

Mather, J. W. 1967. Serving Supply Co-ops Over Several Decades. News for Farmer Cooperatives (Jan.).

AREA NO. 3: COOPERATIVE ORGANIZATION, MANAGEMENT, AND TRANSPORTATION

Problem: Cooperatives are undergoing expansion problems as they extend their services into new areas and as they add new services. At the same time, they face new challenges to help farmers dissatisfied with prices received and those they pay. Also, more and more low income groups in rural areas are seeking to improve their level of living through cooperative effort.

Increasingly, the Department is being asked to assist developing countries establish stronger cooperatives that can help producers market their crops, buy their supplies, and obtain needed services.

These developments create a great demand for the U.S. Department of Agriculture to increase its research on organization, management, and transportation problems of cooperatives.

Research is needed to find the most efficient ways to finance cooperatives, determine the most equitable basis for distributing patronage refunds, bring about more effective mergers and consolidations, determine best forms of cooperative organization for greatest efficiency, lower cooperative transportation costs, and improve transportation and handling of grain and other farm products.

Research is also needed to better serve small producers in low-income rural areas through cooperative assembly, transportation, and distribution associations; evaluate effects of legal changes on cooperatives; and influence members and the general public more effectively through improved communications of cooperatives.

In order to strengthen cooperatives, it is also necessary to collect and analyze basic economic information on cooperatives on a continuing basis and evaluate their progress.

USDA and Cooperative Program

The Department has a continuing program of basic and applied research to help farmers strengthen the organization of their cooperatives, improve their management, build effective membership relations, and develop and maintain efficient cooperative transportation services.

As a part of rural areas development, the Department's program includes increased emphasis on feasibility studies of new enterprises to assist farmers in low-income rural areas. This work provides information needed to help carry out the objectives of the Economic Opportunity Act, Public Works and Economic Development Act, Appalachian Redevelopment Act, and the many special programs of the U.S. Department of Agriculture and other Federal and public agencies concerned with cooperative development.

The work is centered in Washington, D.C. Many studies, however, are conducted under contract or in cooperation with land-grant universities and colleges, State experiment stations, cooperative extension services, and private research organizations.

Federal scientific man-years devoted to research in this area totaled 5.3. Of this amount 2.2 was devoted to organization and management, 0.8 to cooperative trends, 0.1 to membership relations, and 2.2 to transportation and physical distribution. All research in this area was in the field of economics.

Program of State Experiment Stations

The research effort of the State experiment stations in this area totaled 7.7 scientist man-years.

Progress -- USDA and Cooperative Programs

A. Organization and management

Merger study.--Research is underway on the stated objectives of predecessor cooperatives versus the achieved objectives of the resulting cooperatives. Work was completed on 10 cooperatives that had resulted from merger, consolidation, or acquisition. Special emphasis is now being given to determining and evaluating average per-unit costs before and after merger for the acquired and acquiring cooperative, and changes in market structure after the merger, consolidation, or acquisition.

Oregon State University is conducting this study under a cooperative agreement.

Capital structure.--Work continued on a nationwide study of the financial structure of all farmer marketing, farm supply, and related service cooperatives.

Preliminary findings showed combined assets of the 8,534 farmer cooperatives amounted to about \$5.7 billion at the close of fiscal years ended in 1962. Current assets amounted to 52 percent of this total and current liabilities, 33 percent -- resulting in a current ratio of 1.6.

Combined equity capital amounted to \$3.2 billion, or 57 percent of total assets. Combined borrowed capital (excluding Commodity Credit Corporation loans to tobacco marketing regionals) amounted to \$1.03 billion at the close of the 1962 fiscal period.

Banks for cooperatives supplied 58 percent of borrowed capital outstanding at 1962 year-end fiscal dates as compared to 19 percent supplied by individuals and 10 percent supplied by commercial banks.

After taking into account operating losses incurred by 1,103 associations, combined net savings of all the cooperatives amounted to \$522 million. Savings of \$532 million were reported by the 7,324 associations realizing net savings. Thirty-six percent of this was paid in cash patronage refunds and 7 percent in cash dividends and interest on equity capital. An additional 50 percent was distributed as allocated patronage refunds; and 4 percent retained as unallocated reserves. The remaining 3 percent paid Federal and State income taxes.

B. Cooperative trends

Cooperative volume and membership.--Total business volume and memberships of farmers' marketing, purchasing, and related service cooperatives increased during the 1964-65 period, while the number of cooperatives decreased slightly.

For all farm products marketed, farm supplies handled, and related services performed by cooperatives, the total gross volume of business, including business between cooperatives, amounted to \$19.6 billion. This was an increase of 1.9 percent over the \$19.3 billion gross for the previous year.

After excluding interassociation business, the total net volume amounted to \$14.7 billion, an increase of 2.7 percent over the \$14.4 billion in 1963-64 and 53 percent over the \$9.6 billion total net business reported in 1954-55.

The total number of farmer cooperatives decreased from 8,847 in 1963-64 to 8,583, in 1964-65 -- a net decrease of 264 associations. The decline reflects a continuing reorganization trend involving merger, consolidation, and acquisition. The sharper than usual decrease during 1964-65 was also due to the reclassification of over a hundred local cooperatives into branches of regional cooperatives which centralized their operations.

Cooperative memberships totaled 7,082,010 in 1964-65, a slight increase over the 7,079,500 memberships reported for 1963-64. While the membership figure remained relatively stable during this reporting period, the long-term trend has been a decline in cooperative memberships due to the decreasing number of farmers in the United States.

Fertilizer.--A study is underway to determine trends in fertilizer manufacturing and distribution by farmer cooperatives. The study will determine the various fertilizer services and functions cooperatives perform, and evaluate the major factors considered by farmer cooperatives in expanding and integrating their fertilizer operations.

Patronage refunds.--Preliminary findings from a study of the cooperative way of returning savings to patrons indicate:

- . A growing complexity is occurring in patronage procedures -- stemming from expansion and diversification of cooperative activities.
- . Cooperatives pooling sales proceeds have different concepts of patronage refunds. Some regard the final settlement a refund if it returns more than the current market price.
- . Using proportionality of patronage in the year a loss occurs as the basis for its distribution is an important method of assuring equitability.
- . Some cooperatives do not operate on a "service-at-cost" basis. Some retain a portion of net savings as corporate earnings.
- . Others have never paid patronage refunds.
- . When net savings are small, some cooperatives may retain all savings, after taxes, as corporate capital.
- . A lack of generally accepted definitions of such terms as "nonpatronage income," "patronage refund," "final settlement," and "net savings."

C. Improving membership relations programs of cooperatives

Cooperatives are concerned about maintaining farmer support and patronage as older farmers retire and younger farmers assume a more dominant role in agriculture. The young farmer took no part in the earlier struggles of cooperatives and is inclined to be quite pragmatic and objective in evaluating the merits of cooperative membership and patronage.

Analysis of Kansas farmer attitudes toward cooperatives revealed, however, no significant difference between young farmers (under 40) and older farmers. Thirty-one percent of the younger farmers were members of three or more cooperatives -- 34 percent of those over 40 were members of three or more cooperatives.

Mississippi State University is conducting work on a similar but broader project in Mississippi.

D. Transportation and physical distribution by farmer cooperatives

Motortruck operations of farmer cooperatives.--Preliminary findings of a nationwide study of number, type, and location of motortrucks operated by cooperatives indicate:

- . Fifty-five percent of the cooperatives operate motortrucks.
- . This percentage has remained essentially unchanged since 1960.

- . The number of trucks operated increased from 33,000 in 1960 to 40,000 in 1966.
- . Dairy cooperatives account for about a third of all trucks operated.
- . Truck mileage in 1966 is estimated at 830 million miles with 80 percent of this mileage being intrastate.
- . The increase in mileage by co-op trucks in the past 6 years is about 26 percent compared with 44 percent for all trucks in the United States.
- . Those cooperatives reporting number of interstate trips and backhauls indicated they backhauled on only 21 percent of their trips and 89 percent of these backhauls consisted of their own or members' goods.

Coordinating transportation among cooperatives.--Preliminary findings of a study of 17 large farm supply and grain marketing cooperatives in the Midwest to determine the potentials for coordinating their transportation operations indicate:

- . Sufficient movement of both grain and fertilizer justifies seasonal shifting of cooperative owned or leased barges and hopper cars between grain and farm supply cooperatives.
- . The greatest potential for coordinating transportation operations is between grain shipments from the Midwest.
- . A coordinated transportation program among cooperatives would permit better utilization of their own transportation equipment.

Grain transportation and handling by farmer cooperatives.--Principal findings of a study of ownership and leasing of covered hopper cars by cooperatives indicate:

- . Cooperatives operate their own hopper cars to provide faster delivery service and thus help build sales.
- . Ownership of hopper cars may offer opportunities for savings that will allow a hopper car to be operated fewer miles per month than a leased car and still break even.

Findings of a study of transportation factors in marketing soybeans, cottonseed and their products by farmer cooperatives show:

- . The heaviest volumes of soybeans and cottonseed originate at points within 50 miles of the processing plants.

- . The average cost of transporting cottonseed was greater than for soybeans because most cottonseed moved by trucks while soybeans were equally divided between rail and truck.
- . More than two-thirds of all soybean and cottonseed meal shipments are handled by the railroads.
- . Traditional rail arrangements on cottonseed and soybeans are tending to break down under the impact of exempt motor and water carriers.

Motortruck cost control system for cooperatives.--Developing a motortruck cost recordkeeping and control system is nearing completion. This will provide a better system and better procedures to maintain and increase truck fleet operating efficiency. A report is being prepared covering: Organization of a traffic department, effective maintenance cost control procedures, vehicle operating cost record systems, and recordkeeping forms and procedures.

Developing a least-cost distribution system.--A study was initiated to determine alternative distribution programs and plant locations for honey processing and marketing.

Publications -- USDA and Cooperative Programs

Organization and Management

Davidson, D. R. 1966. Methods and Policies Used in Making Patronage Refunds by Selected Farmer Cooperatives. FCS General Report 137.

Davidson, D. R. 1967. Let's Get More Mileage From Refunds. News for Farmer Cooperatives (Apr.).

Volkin, D. 1966. Any Corporation Can Achieve a Tax Status Comparable to Cooperatives. News for Farmer Cooperatives (Oct.).

Volkin, D. 1967. Management Problems - Old and New. News for Farmer Cooperatives (Jan.).

Volkin, D. and Neely, D. M. 1967. The Amended Tax Laws Affecting Cooperatives and Their Patrons. FCS Service Report 87.

Volkin, D. and Neely, D. M. 1967. Tax Laws Changed on Capital Retains. News for Farmer Cooperatives (Mar.).

Volkin, D. 1967. What Directors Expect of Managers. News for Farmer Cooperatives (June).

Cooperative Trends

Holder, J. R. 1966. Cooperative Business Size Increases. News for Farmer Cooperatives (Nov.).

Swanson, B. L. 1967. Cooperative Statistics Show Progress and Change. News for Farmer Cooperatives (Jan.).

Swanson, B. L. 1967. Statistical Measure of Co-ops Looks Good. News for Farmer Cooperatives (June).

Membership Relations

Rust, I. W. 1967. Membership Relations - An Evolutionary Process. News for Farmer Cooperatives (Jan.).

Transportation

Byrne, R. J. 1967. Transportation -- Road to Co-op Progress. News for Farmer Cooperatives (Jan.).

Camp, T. H. 1967. Petroleum Tank Truck Operating Costs of Selected Farmer Cooperatives. FCS Service Report 86.

Camp, T. H. and Volkin, D. 1967. Owning or Leasing of Covered Hopper Cars by Farmer Cooperatives. FCS General Report 144.

Holroyd, W. M. 1967. Beeline from Producer to Consumer -- Sioux Honey's Distribution Aim. News for Farmer Cooperatives (Feb.).

Thompson, W. H. 1967. Transportation Factors in Marketing Soybeans, Cottonseed, and Their Products, 16 Selected Cooperatives. FCS General Report 145.

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
a-1-1	<u>Research, service and educational assistance for cotton and oilseed cooperatives</u>			
a-1-1-4**	Organizational structure and operations of cotton cooperatives in Lubbock area of Texas		No	
a-1-1-5	Cooperative marketing and processing of cottonseed and soybeans and their products	Ark., Calif., Miss., N.Mex., Okla., Tex.	Yes	1-C
a-1-1-6	Advisory and educational assistance to cotton cooperatives on their problems relating to organization, operations, procedures and policies		No	
a-1-2	<u>Research, service and educational assistance for dairy cooperatives</u>			
a-1-2-10	Advisory and educational assistance to dairy cooperatives on their problems relating to organization, operations, procedures and policies	Kans., Mo., N.Y., Wash., Ill., Minn., N.D., S.D.	Yes	1-C-D
a-1-3	<u>Research, service and educational assistance for frozen food locker cooperatives</u>			
a-1-3-6 (Rev. 2)	Advisory and educational assistance to frozen food locker and related processing and merchandising cooperatives		No	
a-1-3-9**	The role and methods of locker and related processing cooperatives in processing and merchandising locally produced food products		No	
a-1-3-10**	An appraisal of the facilities and opera- tions of frozen food locker and freezer provisioning cooperatives	Wash., D.C.	Yes	2-B
a-1-3-11	Comparison of operating performance and adjustments of frozen food locker coop- eratives, 1960-1965	Wash., D.C.	Yes	2-C
a-1-3-12*	A comparison of frozen food locker coop- eratives with and without slaughter facilities	Wash., D.C.	Yes	2-C
a-1-4	<u>Research, service and educational assistance for fruit and vegetable cooperatives</u>			
a-1-4-15** (Rev.)	Advisory and educational assistance to fruit, vegetable and nut cooperatives on organizational and operational problems	United States	Yes	1-A-D
a-1-4-17	Scope and potentials in marketing fruits, vegetables and nuts by cooperatives	Wash., D.C.	Yes	1-B

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
a-1-5	<u>Research, service and educational assistance for grain cooperatives</u>			
a-1-5-5 (Rev. 2)	Comparative operating efficiency of regional grain cooperatives	United States	Yes	1-D
a-1-5-8 (Rev. 2)	Accounting exercise for local cooperative grain elevator personnel	Midwestern States	Yes	1-D
a-1-5-10 (Rev.)	Comparative operating efficiency of cooper- ative soybean oil mills	Midwestern and Southern States	Yes	1-C
a-1-6	<u>Research, service and educational assistance for livestock and wool cooperatives</u>			
a-1-6-12** (Rev.)	Operations and organization of State and regional wool marketing cooperatives and National Wool Marketing Corp.	United States	No	
a-1-6-17 (Rev.)	Advisory and educational assistance to live- stock and wool cooperatives on problems relating to organization, operations, pro- cedures, and policies	United States	Yes	1-C
a-1-7	<u>Research, service and educational assistance for poultry cooperatives</u>			
a-1-7-12 (Rev. 2)	Advisory, educational, and research assistance to poultry cooperatives on their problems relating to organization, operations, procedures, and policies	Calif., Conn., Me., Mass., N.H., N.J., N.Y., R.I., Tex., Ore., Minn., Okla., Mo., Nebr.	Yes	1-D
a-1-7-16	Organizational structure, operations, and accomplishments of Western Farmers Association	Wash., D.C.	No	
a-1-8	<u>Research, service and educational assistance for cooperatives handling special crops</u>			
a-1-8-5 (Rev.)	Advisory and educational assistance on organizational and operational problems of special crop cooperatives	Va., Wash., D.C.	No	
a-1-8-8	Advisory and educational assistance on organizing and operating forestry based cooperatives	Appalachian and Lake States	Yes	1-B-D
a-1-9	<u>Research, service and educational assistance for purchasing cooperatives</u>			
a-1-9-25 (Rev. 2)	Advisory and educational assistance on current organizational and operational problems of farm supply cooperatives	Ohio, Wash., D.C.	Yes	2-D
a-1-9-34	The place of cooperatives in the fertilizer industry	United States	Yes	2-B
a-1-9-35	Pricing of feed and fertilizer by coopera- tives	Midwest and East	Yes	2-A

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
a-1-9-36	Annual information on organizational, operating, and financial aspects of major regional cooperatives handling supplies	Wash., D.C.	Yes	2-D
a-1-9-37(CA)	Economic and noneconomic factors affecting buying decisions and behavior of commercial farmers purchasing farm inputs from cooperatives and others	Ill.	No	
a-1-10	<u>Research, service and educational assistance for cooperatives providing rural services</u>			
a-1-10-4 (Rev. 2)	Advisory and educational assistance on current organizational and operational problems of farm business service cooperatives	Wash., D.C.	Yes	2-D
a-1-10-9**	Characteristics and opportunities of cooperatives serving low-income farmers		No	
a-1-10-10 (Rev.)	Characteristics and opportunities of credit unions operating in low-income rural areas	Wash., D.C.	Yes	2-B
a-1-10-11(CA)	An analysis of the impact of mergers on artificial breeding cooperatives and their members	Wash., D.C., Del., N.J., N.Y., Pa.	No	
a-1-10-12	Mergers and consolidations among farmers mutual fire insurance companies	Wash., D.C., Pa.	Yes	2-D
a-1-10-13*	Factors affecting buying decisions and behavior of low-income rural residents toward local cooperatives	Appalachian Region	Yes	2-B
a-1-10-14*	Status, current development, and methods of operating selected recreation associations	Wash., D.C.	Yes	2-B
a-1-11	<u>History and statistics of cooperation</u>			
a-1-11-4 (Rev.)	Service and educational assistance in developing and disseminating statistical information on agricultural cooperation	Wash., D.C.	No	
a-1-11-9	Trends in fertilizer manufacturing and distribution by farmer cooperatives	Wash., D.C.	Yes	3-B
a-1-11-11	Annual statistical survey of marketing, farm supply, and related service cooperatives	Wash., D.C.	Yes	3-B
a-1-12	<u>Research, service and educational assistance on business administration problems of cooperatives</u>			
a-1-12-14 (Rev.)	Advisory and educational assistance on current organizational and operational problems of cooperatives	Ga., N.Y., Minn., Tenn., N.C., Tex., La., Colo., Wash., D.C.	No	
a-1-12-17	Analysis of financial structure of farmer cooperatives	United States	Yes	3-A

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
a-1-12-19	Developing educational and interpretive material to assist farmer cooperatives to comply with Federal income tax laws	Wash., D.C.	No	
a-1-12-20	Evaluation of the equitability of patronage refund distribution methods employed by farmer cooperatives	Wash., D.C.	Yes	3-A
a-1-12-21	Analysis of the stated versus achieved objectives of farmer cooperative mergers	Ore.	Yes	3-A
a-1-13	<u>Research, service and educational assistance on membership problems of cooperatives</u>			
a-1-13-12 (Rev. 2)	Consultative advice on membership relations research	Miss., Va., Wisc.	No	
a-1-13-13 (Rev. 2)	Planning training programs in agricultural cooperation for foreign nationals	United States	No	
a-1-13-14 (Rev.)	Helping farmer cooperatives to strengthen their membership relations programs and activities	Tex., Ohio, Wisc., N.Y.	No	
a-1-13-18	Strengthening member and public relations of farmer cooperatives in Kansas	Kans.	Yes	3-C
a-1-13-19(CA)	Providing information to help rural people understand and use cooperatives effectively in Mississippi	Miss.	Yes	3-C
a-1-13-20	Preparing cooperative educational material	Wash., D.C. Nationwide	No	
a-1-13-21	Developing cooperative education and training programs	Tex., Nebr., N.Y., Calif., Wisc., Wyo., Colo., Ohio	No	
a-1-13-22(CA)	Helping Virginia cooperatives adjust to current conditions and projected needs of rural residents	Va.	No	
a-1-14	<u>Research, service and educational assistance on transportation problems of cooperatives</u>			
a-1-14-7 (Rev. 2)	Analysis of transportation costs and practices in the development of marketing and purchasing programs of farmers' cooperatives	Tex., Ga., Calif., Ida., Iowa, Ohio, Mo., Ill., Minn., Nebr., Ind.	Yes	3-D
1101	<u>Costs and efficiency of farmers' business firms in marketing farm products</u>			
1101-21(C)	Improving methods of cooperative marketing agencies and growers in procuring containers and packaging supplies for fresh fruits and vegetables	Calif., Fla., Wash., Ore., Me., Mich., N.J., N.Y., Ohio, Pa.	Yes	2-B

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
1101-26	Costs and economic effects of storing seed cotton by improved methods, with emphasis on cooperative gins	Wash., D.C.	Yes	1-B-C
1101-28(C)**	Appraisal of the operations of local cooperative buying groups of farmers in purchasing feed ingredients and formula mixed feeds	Calif.	Yes	2-A
1101-29(C)	Improving methods of cooperative marketing agencies in procuring containers and packaging supplies for processed fruits and vegetables	United States	Yes	2-B
1101-30	Development of improved operating information systems based on cost accounting procedures for cooperative dairy manufacturing plants	Wash., D.C.	Yes	1-C
1101-31	The Role of milling and baking laboratories in grain merchandising by regional grain cooperatives	Midwest	No	
3101	<u>Developing more efficient use of transportation services and facilities by farmers' marketing agencies</u>			
3101-9	Analysis of practices of cooperatives in marketing and purchasing seeds and recommendations for improvements		No	
3101-10** (Rev. 2)	Relation of transportation and handling practices and conditions in moving livestock from farms to initial destinations and processing plants to loss and damage	Wash., D.C.	No	
3101-15	Evaluation of traffic management in farmer cooperatives	Wash., D.C.	No	
3101-16**	Evaluating transportation factors in marketing soybeans, cottonseed, and their products by farmer cooperatives	Wash., D.C., Iowa	Yes	3-D
3101-17	Farmer Cooperative Service Cooperation in SM-29 "Optimal Adjustments of Southern Grain Marketing Facilities to Present and Future Conditions"	South	Yes	1-D
3101-18	Evaluating effects of changing transportation rates and services on grain handling practices of farmer cooperatives	Wash., D.C., Iowa	Yes	3-D
3101-19*	Developing a motortruck cost control system for farmer cooperatives	Wash., D.C., Pa.	Yes	3-D
3101-20*	Transportation equipment operations of farmer cooperatives	United States	Yes	3-D

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
3102	<u>Pricing plans and methods of farmers' mar- keting agencies</u>			
3102-14	Study of pooling and producer payment prac- tices of egg marketing cooperatives and others	Wash., D.C.	No	
3102-15	An appraisal of functions and potentials of broiler auctions	Wash., D.C., Del., Ga., Md., Pa., Va., W. Va., Tex.	Yes	1-A
3102-16	Evaluation of principles and methods used by dairy cooperatives in pooling marketing costs and sales returns	Wash., D.C.	No	
3102-17	An appraisal of the status, role, capabil- ities, and future of cooperative bargain- ing associations	Wash., D.C.	No	1-A
3103	<u>Improving processing and storage facilities and techniques of farmers' marketing agencies</u>			
3103-20	Developing methods and data for frozen locker and related small processing firms need for improving facilities planning and product handling	Iowa	No	
3103-22	Inventory control practices and policies at local grain cooperatives	Major Grain Produc- ing Areas	Yes	1-D
3103-23(C)	Factors determining the feasibility of alfalfa dehydration by cooperatives and other firms	Colo., Kans., Mont., Nebr.	Yes	2-B
3104	<u>Improving distribution methods and facilities of farmers' marketing firms</u>			
3104-18**	The influence of changing procurement prac- tices on the marketing of Florida fresh citrus fruits	Wash., D.C.	No	
3104-26	Organizational structure, operations, and potentials of coordinated fruit and vege- table marketing programs	Wash., D.C.	Yes	1-B
3104-28	An appraisal of coordinated marketing activities used by dairy cooperatives	Wash., D.C.	Yes	1-A-B
3104-29	A determination and evaluation of the role of the role of cooperatives in the market structure of selected major potato pro- ducing areas of the United States	Wash., D.C.	Yes	1-B
3104-30**	Improving coordination of sales and dis- tribution of dairy products manufactured by dairy co-ops	Wash., D.C.	No	1-A

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Work & line project number	Work and line project titles	Work locations during past period	Line proj. incl. in	
			Summary of progress	Area & sub- heading
3104-31	FCS cooperation in NCM-38, "Dairy Market Adjustment Problems in the North Central Region"	Wash., D.C.	Yes	1-B
3104-32(CA)	Potential of Fruit and Vegetable cooperatives on the Coastal Plains of North Carolina	Wash., D.C., N.C.	Yes	1-B
3104-33	An appraisal of the status, role, capabilities, and future of farmers' turkey marketing cooperatives	Wash., D.C., Calif., Minn., Ia., Mo., Tex., Wisc., N.C. Ark., Ill., Utah	Yes	1-B
0-0-2(DC)(C)	Economic feasibility for cooperative forest based management, marketing, and processing enterprises	Wash., D.C., W. Va.	Yes	1-B
0-0-3(EDA)(C)**	Economic feasibility of livestock-meat processing and marketing cooperatives in Vermont.	Northeastern States	Yes	1-B
*Initiated during reporting period **Discontinued during reporting period				

